

## **IN THE SPECIFICATION**

Add a new heading and paragraph at page 1, after the title as follows:

### **CROSS REFERENCE TO RELATED APPLICATION**

This application is a national phase application based on PCT/EP2004/050173, filed February 20, 2004, the content of which is incorporated herein by reference.

### **BACKGROUND OF THE INVENTION**

#### **Field of the Invention**

Page 1, before line 14, add the following new subheading:

#### **Description of the Related Art**

Page 11, before line 8, add the following new section heading:

### **SUMMARY OF THE INVENTION**

Page 12, lines 9-26, delete the three (3) paragraphs starting with "Therefore, according to an aspect of the present invention..." and ending with "...function of said spatial periodicity." in their entirety and substitute a new paragraph therefor as follows:

In accordance one aspect of the present invention, there is provided a method of determining characteristic spin parameters of a spun optical fiber by performing optical time-domain reflectometry measurements on the fiber, so as to obtain a state of polarization (SOP) spatial function from a backscattered electromagnetic field, said SOP spatial function being defined by a plurality of components, and processing the SOP spatial function. The processing includes calculating a further spatial function related to the spatial first derivative of at least one of said components of the SOP spatial function;

identifying a spatial periodicity of said further spatial function; and determining said characteristic spin parameters as a function of said spatial periodicity.

Page 13, line 25, to page 14, line 5, delete the two (2) paragraphs starting with "According to another aspect of the present invention..." and ending with "...a data processor for processing the SOP spatial function." in their entirety and substitute a new paragraph therefor as follows:

According to another aspect of the present invention, there is provided an apparatus for determining spin characteristic parameters of a spun optical fiber which includes a source of electromagnetic radiation optically coupled to the fiber; a POTDR measurement apparatus optically coupled to the fiber to obtain a state of polarization (SOP) spatial function from a backscattered electromagnetic field, said SOP spatial function being defined by a plurality of components; and a data processor for processing the SOP spatial function.

Page 14, before line 16, add the following new section heading:

BRIEF DESCRIPTION OF THE DRAWINGS

Page 17, before line 6, add the following new section heading:

DETAILED DESCRIPTION OF THE INVENTION